



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,075	04/12/2005	Hiroko Kuno	050136	2558
23850 7590 10/22/2010 KRATZ, QUINTOS & HANSON, LLP 1420 K Street, N.W. 4th Floor WASHINGTON, DC 20005				
EXAMINER				
JACKSON, MONIQUE R				
ART UNIT		PAPER NUMBER		
1787				
MAIL DATE		DELIVERY MODE		
10/22/2010		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/531,075

**Applicant(s)**

KUNO, HIROKO

**Examiner**

Monique R. Jackson

**Art Unit**

1787

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 September 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 6 and 7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 6 and 7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI.08)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/20/10 has been entered.
2. The amendment filed 9/20/10 has been entered. Claims 2-5 have been canceled. New claims 6-7 have been added. Claims 1 and 6-7 are pending in the application. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Claim Rejections - 35 USC § 103***

3. Claims 1 and 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishihara et al (USPN 5,518,810) in view of Takeda et al or Fisher. Nishihara et al teaches an infrared-ray cutoff material useful for a vinyl house or hothouse for plants wherein ITO infrared-ray shielding particles are uniformly dispersed in a plastic material such as polyvinyl chloride and used as a coating on surface of the plastic film or glass of the house or as the plastic film or panel itself (Entire document, particularly Col. 8, lines 40-50; Col. 10, lines 41-48.) Nishihara et al teaches that the average particle size of the infrared-ray shielding particles is preferably 0.2 microns or less, preferably 0.1 microns or less, to inhibit light scattering and allows for selectively cutting off infrared rays without impairing transparency wherein light transmissivity to visible light is preferably higher than 80% and infrared ray cutoff is preferably more than 90% (reads upon claimed transmittance properties and claimed particle diameter; Col. 9, lines 27-44;

Art Unit: 1787

Col. 4, lines 1-56.) Nishihara et al teaches that the content ratio of ITO particles to polymer resin should be within the range of 100 parts by weight ITO particles to 25 to 50,000 parts by weight of polymer (Col. 8, lines 62-65; reads upon claimed content or coating weight.) Nishihara et al teaches that the infrared-ray cutoff material can be utilized as a coating or as a shaped material formed by extruding, injection molding or other methods in the form of a film, a sheet, a panel or a three-dimensional shape, which an example utilizing heat pressing to form a film having a thickness of 70 to 100 microns (Col. 9, lines 9-15; Example 6.) Hence, Nishihara et al differs from the instant invention in the use of ITO particles vs. lanthanum hexaboride ( $\text{LaB}_6$ ) particles and also fails to specifically recite the claimed thickness for the panel or plate material. However,  $\text{LaB}_6$  fine particles are functionally equivalent infrared-ray cutoff or IR absorbing particles to ITO particles, as evidenced by Takeda or Fisher, and the substitution of the functionally equivalent  $\text{LaB}_6$  particles for the ITO particles in the invention taught by Nishihara et al would have been obvious to one having ordinary skill in the art at the time of the invention given the predictable results and reasonable expectation of success, wherein one having ordinary skill in the art at the time of the invention would have been motivated to utilize routine experimentation to determine the optimum particle size and content of the  $\text{LaB}_6$  particles within the ranges taught by Nishihara et al to provide the desired transmittance and cutoff properties for a particular end use. With respect to the claimed thickness of 2 to 15mm, though Nishihara et al teaches that the infrared-ray cutoff material can be utilized as a coating, film, sheet, panel or three-dimensional shape and the particles can be uniformly dispersed directly into the plastic panels used to form a horticultural house, Nishihara et al do not specifically teach or limit the thickness of the sheet or panel. However, one having ordinary skill in the art at the time of the

invention would have been motivated to determine the optimum thickness for a particular end use wherein panels or windows utilized for applications similar to those disclosed by Nishihara et al have thicknesses on the same order of magnitude as the claimed thickness range and hence a thickness within the claimed range would have been obvious to one having ordinary skill in the art at the time of the invention based upon the teachings of Nishihara et al, given the predictable results and reasonable expectation of success.

***Response to Arguments***

4. Applicant's arguments with respect to claims 1 and 6-7 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R. Jackson whose telephone number is 571-272-1508. The examiner can normally be reached on Mondays-Thursdays, 10:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Monique R Jackson/  
Primary Examiner, Art Unit 1787  
October 20, 2010